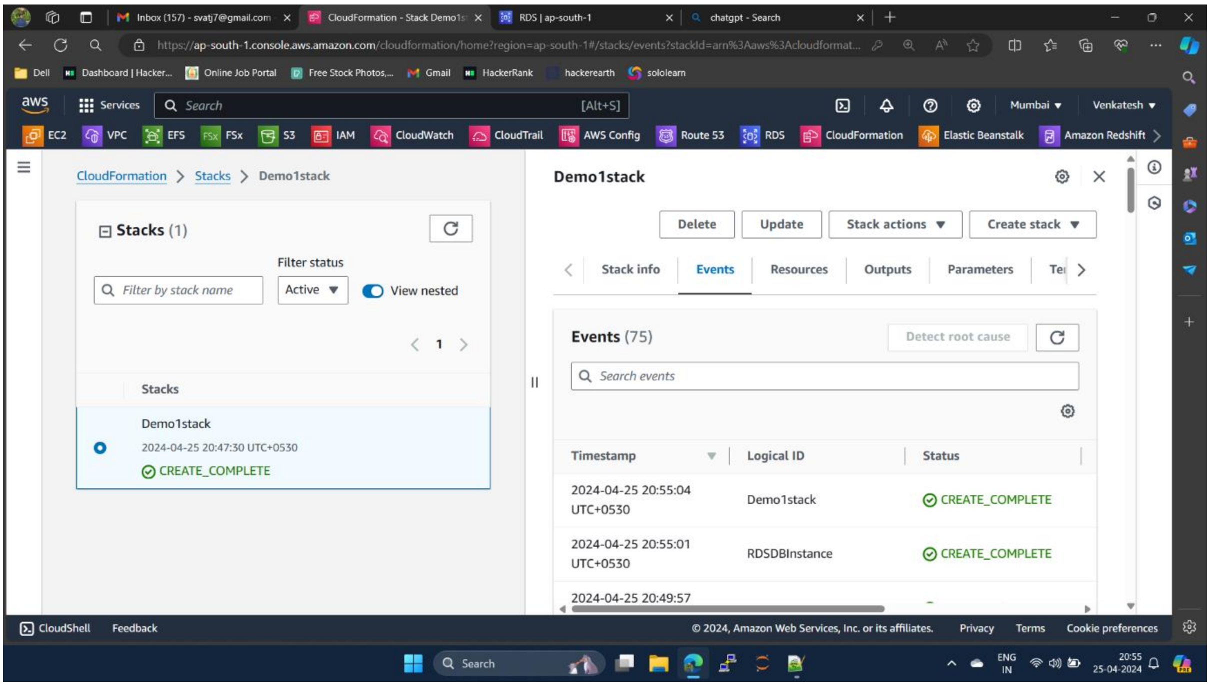
Multi-Tier-Architecture



https://ap-south-1.console.aws.amazon.com/cloudformation/home?region=ap-south-1#/stacks/events?stackId=arn%3Aaws%3Acloudformat...
CloudFormation > Stacks > Demo1stack
Delete
Update
Stack actions
Create stack
Stack info
Events
Resources
Outputs
Parameters
Detect root cause

Stacks (1)

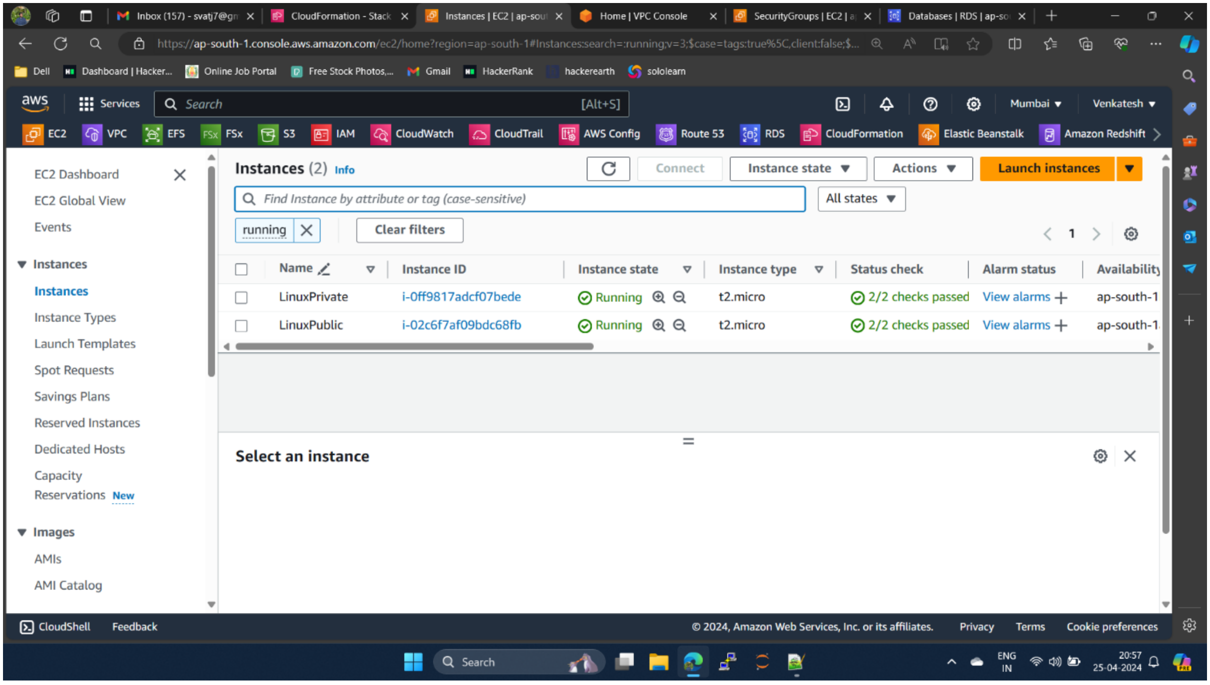
Filter status: Active — View nested

Stacks
● Demo1stack 2024-04-25 20:47:30 UTC+0530 CREATE_COMPLETE

Demo1stack

Events (75)

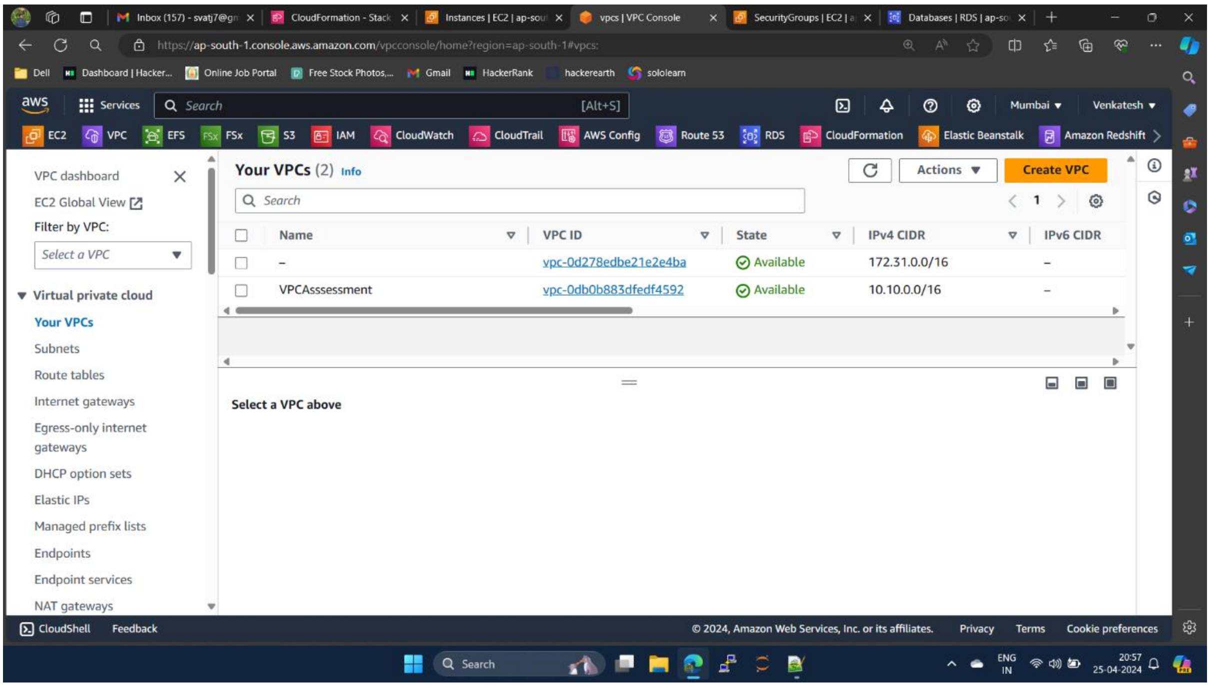
Timestamp	Logical ID	Status
2024-04-25 20:55:04 UTC+0530	Demo1stack	CREATE_COMPLETE
2024-04-25 20:55:01 UTC+0530	RDSDBInstance	CREATE_COMPLETE
2024-04-25 20:49:57		



Instances (2) Info

Filter: running

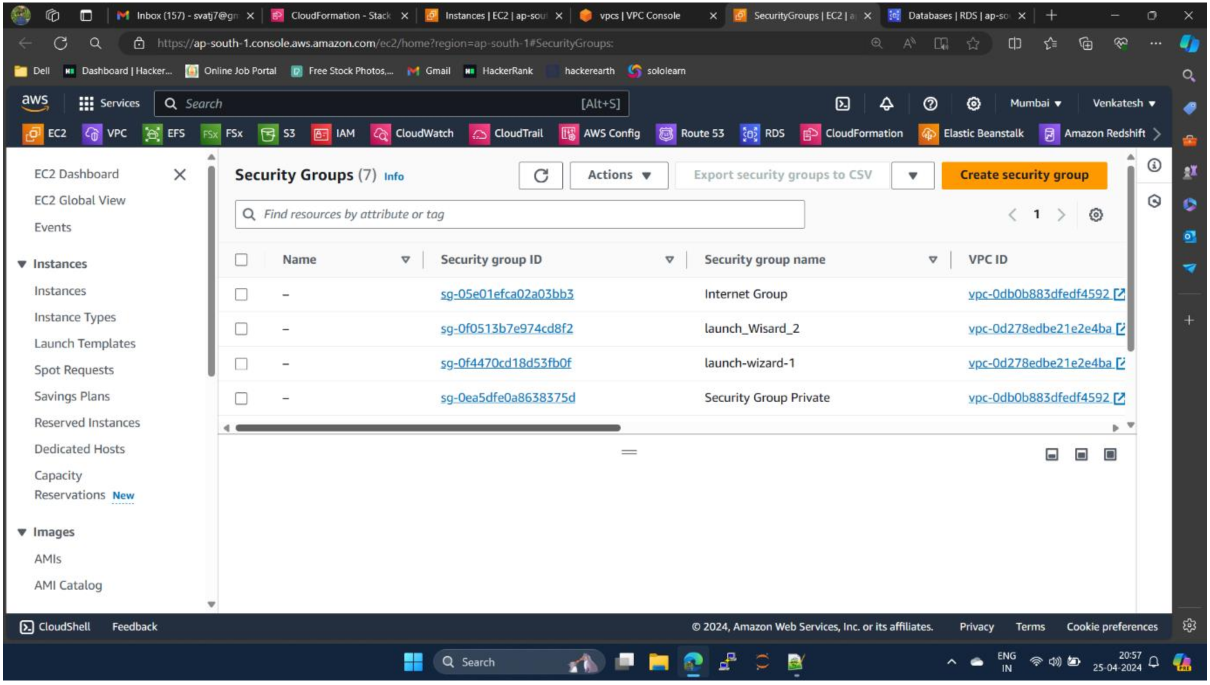
Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability
LinuxPrivate	i-0ff9817adcf07bede	Running	t2.micro	2/2 checks passed	View alarms +	ap-south-1
LinuxPublic	i-02c6f7af09bdc68fb	Running	t2.micro	2/2 checks passed	View alarms +	ap-south-1



Your VPCs (2) Info

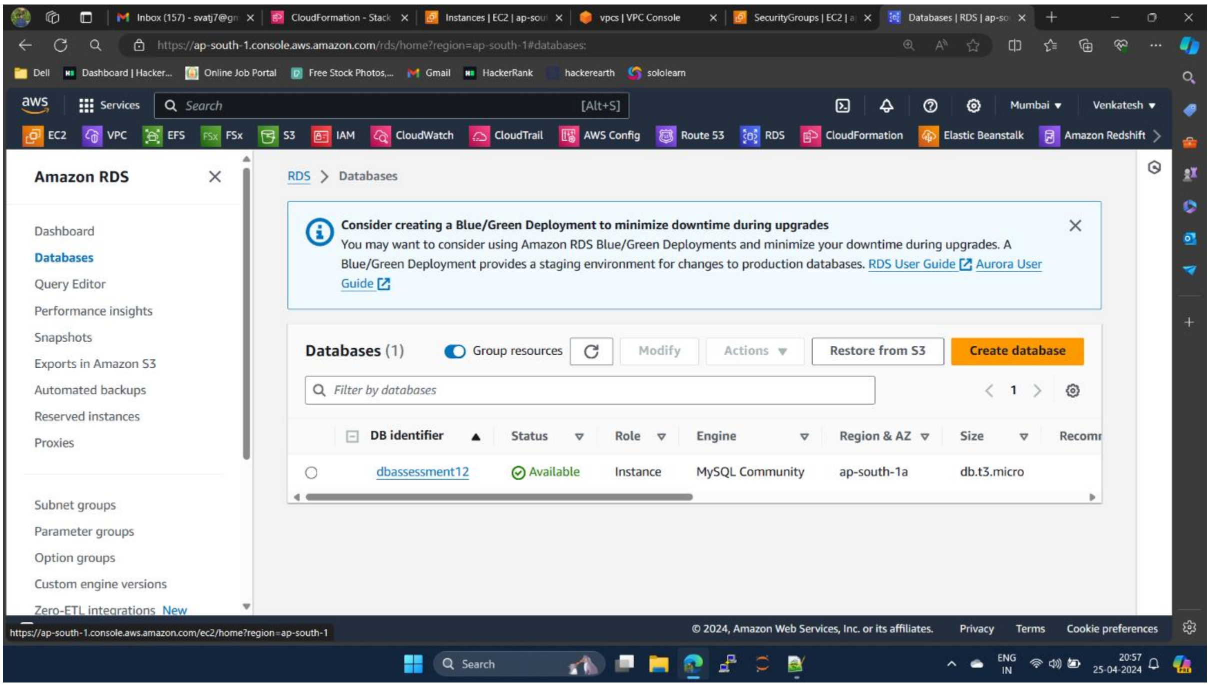
□	Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR
□	–	vpc-0d278edbe21e2e4ba	✓ Available	172.31.0.0/16	–
□	VPCAsssessment	vpc-0db0b883dfedf4592	✓ Available	10.10.0.0/16	–

Select a VPC above



Security Groups (7) Info

□	Name	Security group ID	Security group name	VPC ID
□	–	sg-05e01efca02a03bb3	Internet Group	vpc-0db0b883dfedf4592
□	–	sg-0f0513b7e974cd8f2	launch_Wisard_2	vpc-0d278edbe21e2e4ba
□	–	sg-0f4470cd18d53fb0f	launch-wizard-1	vpc-0d278edbe21e2e4ba
□	–	sg-0ea5dfe0a8638375d	Security Group Private	vpc-0db0b883dfedf4592



Consider creating a Blue/Green Deployment to minimize downtime during upgrades
You may want to consider using Amazon RDS Blue/Green Deployments and minimize your downtime during upgrades. A Blue/Green Deployment provides a staging environment for changes to production databases. RDS User Guide Aurora User Guide

Databases (1)

	DB identifier	Status	Role	Engine	Region & AZ	Size	Recomm
○	dbassessment12	✓ Available	Instance	MySQL Community	ap-south-1a	db.t3.micro	

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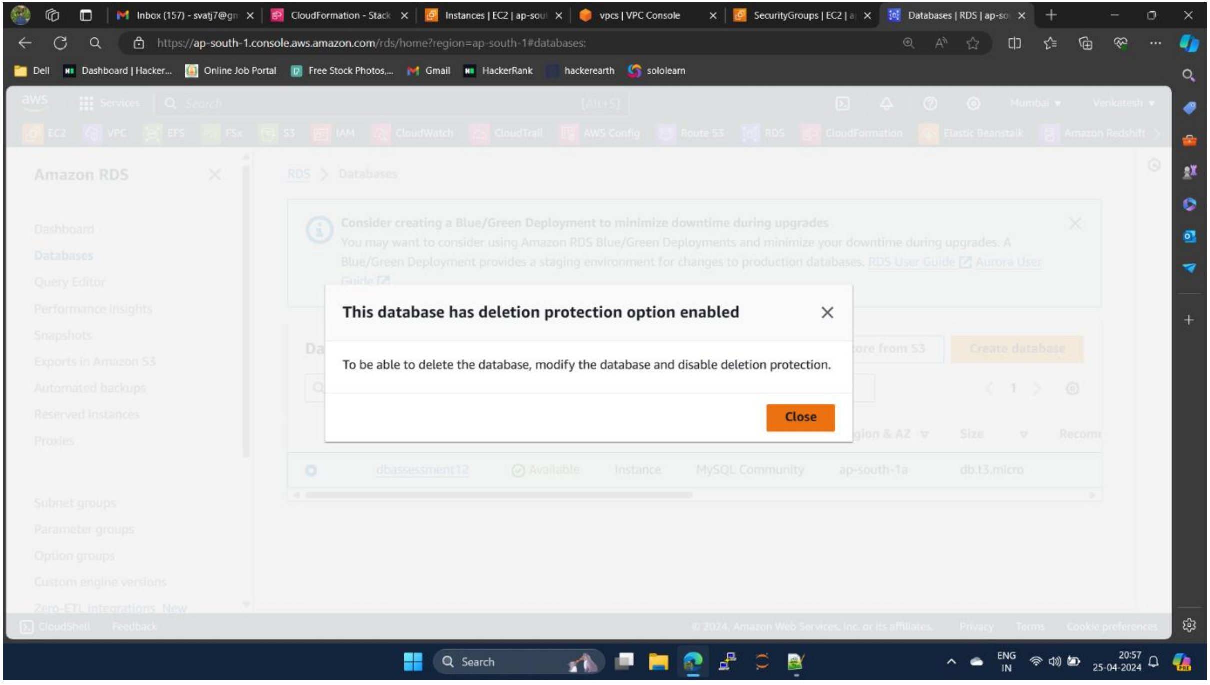

This database has deletion protection option enabled

To be able to delete the database, modify the database and disable deletion protection.

YAML Code:

```
AWSTemplateFormatVersion: 2010-09-09
Parameters:
  InstanceTypeParameter:
    Type: String
    Default: t2.micro
    Description: Enter instance size. Default is t2.micro.
  AMI:
    Type: String
    Default: ami-001843b876406202a
    Description: The Linux AMI to use.
  Key:
    Type: AWS::EC2::KeyPair::KeyName
    Description: Select from Existing Keys.

  MasterUsername:
    Type: String
    Description: The username for the database.

  MasterUserPassword:
    Type: String
    Description: The password for the database.
    "NoEcho": true

Resources:
  VPC:
    Type: AWS::EC2::VPC
    Properties:
      CidrBlock: 10.10.0.0/16
      EnableDnsSupport: true
    EnableDnsHostnames: true
    InstanceTenancy: default
    Tags:
      - Key: Name
        Value: VPCAsssessment
InternetGateway:
  Type: AWS::EC2::InternetGateway
  Properties:
    Tags:
      - Key: Name
        Value: InternetGatewayAssessment
VPCGatewayAttachment:
  Type: AWS::EC2::VPCGatewayAttachment
  Properties:
    VpcId: !Ref VPC
    InternetGatewayId: !Ref InternetGateway

#Public Subnet
SubnetA:
  Type: AWS::EC2::Subnet
  Properties:
    AvailabilityZone: !Select [ 0, !GetAZs ]
    VpcId: !Ref VPC
    CidrBlock: 10.10.1.0/24
    MapPublicIpOnLaunch: true
    Tags:
      - Key: Name
        Value: PublicSubnetAssessment
PublicRouteTable:
  Type: AWS::EC2::RouteTable
```

```yaml
  Properties:
    VpcId: !Ref VPC
    Tags:
      - Key: Name
        Value: RouteTablePublicSubnet
PublicInternetRoute:
  Type: AWS::EC2::Route
  DependsOn: VPCGatewayAttachment
  Properties:
    DestinationCidrBlock: 0.0.0.0/0
    GatewayId: !Ref InternetGateway
    RouteTableId: !Ref PublicRouteTable
SubnetARouteTableAssociation:
  Type: AWS::EC2::SubnetRouteTableAssociation
  Properties:
    RouteTableId: !Ref PublicRouteTable
    SubnetId: !Ref SubnetA

#Private Subnet
SubnetB:
  Type: AWS::EC2::Subnet
  Properties:
    AvailabilityZone:  !Select [ 1, !GetAZs ]
    VpcId: !Ref VPC
    CidrBlock: 10.10.2.0/24
    MapPublicIpOnLaunch: false
    Tags:
      - Key: Name
        Value: PrivateSubnetAssessment
```

```
# A NAT Gateway:
NATGateway:
 Type: AWS::EC2::NatGateway
 Properties:
   AllocationId: !GetAtt ElasticIPAddress.AllocationId
   SubnetId: !Ref SubnetA
   Tags:
   - Key: Name
     Value: NatGetwayAssessment
ElasticIPAddress:
  Type: AWS::EC2::EIP
  Properties:
    Domain: VPC

RouteTablePrivate:
  Type: AWS::EC2::RouteTable
  Properties:
    VpcId: !Ref VPC
    Tags:
      - Key: Name
        Value: RouteTablePrivateSubnet
NATRoute:
  DependsOn: NATGateway
  Type: AWS::EC2::Route
  Properties:
    RouteTableId: !Ref RouteTablePrivate
    DestinationCidrBlock: 0.0.0.0/0
    NatGatewayId: !Ref NATGateway

SubnetBRouteTableAssociationPrivate:
  Type: AWS::EC2::SubnetRouteTableAssociation
  Properties:
    RouteTableId: !Ref RouteTablePrivate
    SubnetId: !Ref SubnetB

InstanceSecurityGroup:
  Type: AWS::EC2::SecurityGroup
  Properties:
    GroupName: "Internet Group"
    GroupDescription: "SSH and web traffic in, all traffic out."
    VpcId: !Ref VPC
    SecurityGroupIngress:
      - IpProtocol: tcp
        FromPort: '22'
        ToPort: '22'
        CidrIp:  0.0.0.0/0
      - IpProtocol: tcp
        FromPort: '80'
        ToPort: '80'
        CidrIp:  0.0.0.0/0
    SecurityGroupEgress:
      - IpProtocol: -1
        CidrIp: 0.0.0.0/0

InstanceSecurityGroupPrivate:
  Type: AWS::EC2::SecurityGroup
  Properties:
    GroupName: "Security Group Private"
    GroupDescription: "SSH from the Public Subnet"
    VpcId: !Ref VPC
    SecurityGroupIngress:
      - IpProtocol: tcp
        FromPort: '22'
        ToPort: '22'
        CidrIp:  10.10.1.0/24
    SecurityGroupEgress:
      - IpProtocol: -1
        CidrIp: 0.0.0.0/0

InstanceSecurityGroupDataBase:
  Type: "AWS::EC2::SecurityGroup"
  Properties:
    GroupDescription: "Database instances security group"
    VpcId: !Ref VPC
    SecurityGroupIngress:
        - IpProtocol: tcp
          CidrIp: 10.10.2.0/24
          FromPort: 3306
          ToPort: 3306
    SecurityGroupEgress:
        - IpProtocol: -1
          CidrIp: 0.0.0.0/0

RDSDBSubnetGroup:
  Type: "AWS::RDS::DBSubnetGroup"
  Properties:
      DBSubnetGroupDescription: "Subnet Group for mySQL database"
      DBSubnetGroupName: !Sub "${AWS::Region}-aws-database-subnet-group14"
      SubnetIds:
        - !Ref SubnetA
```

```
     - !Ref SubnetB
    Tags:
     - Key: Name
      Value: DBSubnetGroup

 RDSDBInstance:
    Type: AWS::RDS::DBInstance
    Properties:
      DBInstanceIdentifier: DBAssessment12
      AllocatedStorage: 20
      DBInstanceClass: db.t3.micro
      Engine: "MYSQL"
      MasterUsername: !Ref MasterUsername
      MasterUserPassword: !Ref MasterUserPassword
      MultiAZ: false
      EngineVersion: 8.0.35
      AutoMinorVersionUpgrade: true
      PubliclyAccessible: false
      StorageType: gp2
      Port: 3306
      StorageEncrypted: false
      CopyTagsToSnapshot: true
      EnableIAMDatabaseAuthentication: false
      DeletionProtection: true
      DBSubnetGroupName: !Ref RDSDBSubnetGroup
      VPCSecurityGroups:
       - !Ref InstanceSecurityGroupDataBase
      MaxAllocatedStorage: 1000
      Tags:
       - Key: Name
```

```
              Value: DBAssessment
            - Key: createdBy
              Value: Igor Silva
            - Key: Project
              Value: AssessmentModule7
            - Key: Environment
              Value: Prod

LinuxPublic:
  Type: 'AWS::EC2::Instance'
  Properties:
    SubnetId: !Ref SubnetA
    ImageId: !Ref AMI
    InstanceType: !Ref InstanceTypeParameter
    KeyName: !Ref Key
    SecurityGroupIds:
      - Ref: InstanceSecurityGroup
    Tags:
      - Key: Name
        Value: LinuxPublic

LinuxPrivate:
  Type: 'AWS::EC2::Instance'
  Properties:
    SubnetId: !Ref SubnetB
    ImageId: !Ref AMI
    InstanceType: !Ref InstanceTypeParameter
    KeyName: !Ref Key
    SecurityGroupIds:
      - Ref: InstanceSecurityGroupPrivate
      Tags:
      - Key: Name
        Value: LinuxPrivate

  HostedZone:
    Type: AWS::Route53::HostedZone
    Properties:
      HostedZoneConfig:
        Comment: "
      Name: newpracticedomain.ml

  MyDNSRecord:
    Type: AWS::Route53::RecordSet
    Properties:
      HostedZoneId: !Ref HostedZone
      Name: www.newpracticedomain.ml.
      Type: A
      TTL: 300
      ResourceRecords:
      - !GetAtt LinuxPublic.PublicIp

Outputs:
  PublicIp:
   Description: Server's PublicIp Address
   Value:
     Fn::GetAtt:
       - LinuxPublic
       - PublicIp
  HostedZoneID:
    Description: The ID of the Hosted Zone.
```

```
Value:
  Ref: HostedZone
```